TECH CENTER 1600 2200

Indres



## ENTERED RECEIVED

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/423,943

DATE: 09/26/2000 TIME: 16:40:05

Input Set : A:\Cbm-70wo.app

Output Set: N:\CRF3\09262000\1423943.raw

```
3 <110> APPLICANT: Sampath, Kuber T.
                Cohen, Charles M.
       6 <120> TITLE OF INVENTION: Methods For Tissue Morphogenesis and Methods for
                Evaluating Morphogenic Activity
     9 <130> FILE REFERENCE: Seq. Listing For CBM-70 WO 11 <140> CURRENT APPLICATION NUMBER: 09/423943
C--> 12 <141> CURRENT FILING DATE: 2000-03-18
      14 <160> NUMBER OF SEQ ID NOS: 9
      16 <170> SOFTWARE: PatentIn Ver. 2.0
      18 <210> SEQ ID NO: 1
      19 <211> LENGTH: 1822
      20 <212> TYPE: DNA
      21 <213> ORGANISM: Homo sapiens
      23 <220> FEATURE:
      24 <221> NAME/KEY: CDS
      25 <222> LOCATION: (49)..(1341)
      26 <223> OTHER INFORMATION: "Morphogenic Protein OP-1"
      28 <400> SEQUENCE: 1
      29 ggtgcgggcc cggagcccgg agcccgggta gcgcgtagag ccggcgcg atg cac gtg
                                                                           Met His Val
      31
      33 cgc tca ctg cga gct gcg gcg ccg cac agc ttc gtg gcg ctc tgg gca
                                                                                           105
      34 Arg Ser Leu Arg Ala Ala Ala Pro His Ser Phe Val Ala Leu Trp Ala
35 5 10 15
                                    10
      37 ccc ctg ttc ctg ctg cgc tcc gcc ctg gcc gac ttc agc ctg gac aac
      38 Pro Leu Phe Leu Leu Arg Ser Ala Leu Ala Asp Phe Ser Leu Asp Asn
      39 20
      41 gag gtg cac tcg agc ttc atc cac cgg cgc ctc cgc agc cag gag cgg
42 Glu Val His Ser Ser Phe Ile His Arg Arg Leu Arg Ser Gln Glu Arg
                                                                                           201
                                                      45
                            40
      43
      45 cgg gag atg cag cgc gag atc ctc tcc att ttg ggc ttg ccc cac cgc 46 Arg Glu Met Gln Arg Glu Ile Leu Ser Ile Leu Gly Leu Pro His Arg
                        55
                                                 60
      49 ccg cgc cac ctc cag ggc aag cac aac tcg gca ccc atg ttc atg 50 Pro Arg Pro His Leu Gln Gly Lys His Asn Ser Ala Pro Met Phe Met 51 70 70 75 80
                                                                                           345
      53 ctg gac ctg tac aac gcc atg gcg gtg gag gag ggc ggc ggg ccc ggc
      54 Leu Asp Leu Tyr Asn Ala Met Ala Val Glu Glu Gly Gly Pro Gly
55 85 90
      57 ggc cag ggc ttc tcc tac ccc tac aag gcc gtc ttc agt acc cag ggc
      58 Gly Gln Gly Phe Ser Tyr Pro Tyr Lys Ala Val Phe Ser Thr Gln Gly
59 100 105 110 115
      61 ccc cct ctg gcc agc ctg caa gat agc cat ttc ctc acc gac gcc gac
                                                                                           441
      62 Pro Pro Leu Ala Ser Leu Gln Asp Ser His Phe Leu Thr Asp Ala Asp 63 120 125 130
                            120
      65 atg gtc atg agc ttc gtc aac ctc gtg gaa cat gac aag gaa ttc ttc
66 Met Val Met Ser Phe Val Asn Leu Val Glu His Asp Lys Glu Phe Phe
                                                                                           489
```

9/26/00

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/423,943 DATE: 09/26/2000 TIME: 16:40:05

Input Set : A:\Cbm-70wo.app
Output Set: N:\CRF3\09262000\I423943.raw

| 67   |  |  |  | 135   |   |  |   |  | 140  |  |  |   |  | 145   |  |  |   |
|--|--|--|--|---|---|--|---|--|--|--|--|---|--|---|--|--|---|
| 69   | cac  | cca  | cgc  | tac   | cac   | cat  | cga   | gag  | ttc  | cgg  | ttt  | gat   | ctt  | tcc   | aag  | atc  | 537   |
| 70   | His  | Pro  | Arg  | Tyr   | His   | His  | Arg   | Glu  | Phe  | Arg  | Phe  | Asp   | Leu  | Ser   | Lys  | Ile  |   |
| 71   |  |  | 150  |   |   |  |   | 155  |  |  |  |   | 160  |   |  |  |   |
| 73   | cca  | qaa  | aaa  | gaa   | act   | atc  | acq   | qca  | qcc  | gaa  | ttc  | caa   | atc  | tac   | aaq  | gac  | 585   |
|  |  |  |  |   |   |  |   |  |  |  |  |   | Ile  |   |  |  |   |
| 75   |  | 165  | 011  | 010   |   |  | 170   |  |  | 024  |  | 175   |  | -1-   | -10  | 1106   |   |
|  | tac  |  | caa  | maa.  | cac   | tta  |   | aat  | nan  | aca  | ttc  |   | atc  | agg   | att  | tat  | 633   |
| 78   |  |  |  | _   | _   |  | _   |  |  |  |  | -   | Ile  |   |  |  | 055   |
|  | 180  | TTE  | Arg  | Giu   | Arg   | 185  | rap   | ASII   | Gru  | 1111   | 190  | Arg   | 116  | Ser   | val  | 195  |   |
|  |  |  |  |   |   |  |   |  |  |  |  |   |  |   |  |  | 601   |
|  |  |  |  |   |   |  |   |  |  |  |  |   | ctc  |   |  |  | 681   |
|  | GIn  | Val  | Leu  | GIn   |   | His  | Leu   | GLY  | Arg  |  | Ser  | Asp   | Leu  | Phe   |  | ьeu  |   |
| 83   |  |  |  |   | 200   |  |   |  |  | 205  |  |   |  |   | 210  |  |   |
|  |  |  |  |   |   |  |   |  |  |  |  |   | ctg  |   |  |  | 729   |
| 86   | Asp  | Ser  | Arg  | Thr   | Leu   | Trp  | Ala   | Ser  | Glu  | Glu  | Gly  | Trp   | Leu  | Val   | Phe  | Asp  |   |
| 87   |  |  |  | 215   |   |  |   |  | 220  |  |  |   |  | 225   |  |  |   |
| 89   | atc  | aca  | gcc  | acc   | agc   | aac  | cac   | tgg  | gtg  | gtc  | aat  | ccg   | cgg  | cac   | aac  | ctg  | 777   |
| 90   | Ile  | Thr  | Ala  | Thr   | Ser   | Asn  | His   | Trp  | Val  | Val  | Asn  | Pro   | Arg  | His   | Asn  | Leu  |   |
| 91   |  |  | 230  |   |   |  |   | 235  |  |  |  |   | 240  |   |  |  |   |
| 93   | aac  | cta  | cag  | ctc   | tica  | ata  | αασ   | acq  | cta  | gat  | aaa  | caq   | agc  | atc   | aac  | ccc  | 825   |
|  |  |  |  |   |   |  |   |  |  |  |  |   | Ser  |   |  |  |   |
| 95   | 011  | 245  | 0111   | a.c.u   |   |  | 250   |  | Deu  | ZIOP   | 0+1  | 255   | 001  |   | 21011  | 110  |   |
| -  | 220  |  | ~~~  | aaa   | o+a   | a++  |   | 000  | 020  | aaa  | 000  |   | aac  | 220   | 0.20   | 000  | 873   |
|  |  |  |  |   |   |  |   |  |  |  |  |   |  |   |  |  | 0/3   |
|  |  | Leu  | Ата  | GIA   | Leu   |  | GIY   | ALG  | urz  | GLY  |  | GIII  | Asn  | гуз   | GIII   |  |   |
|  |  |  |  |   |   |  |   |  |  |  |  |   |  |   |  |  |   |
|  | 260  |  |  |   |   | 265  |   |  |  |  | 270  |   |  |   |  | 275  | 021   |
| 101  | ttc  |  |  |   |   | ttc  |   |  |  |  | gto  |   |  |   |  | atc  | 921   |
| 101<br>102   | ttc<br>Phe   |  |  |   | Phe   | ttc<br>Phe   |   |  |  | G1u  | gtc<br>Val   |   |  |   | Sei  | atc<br>Ile   | 921   |
| 101<br>102<br>103  | ttc<br>Phe   | Met  | Val  | . Āla   | Phe<br>280  | tto<br>Phe   | Lys   | Āla  | Thr  | G1u<br>285   | gtc<br>Val   | His   | Phe  | Arg   | Ser<br>290   | atc<br>: Ile   |   |
| 101<br>102<br>103<br>105   | ttc<br>Phe<br>cgg  | Met  | Val  | . Ala   | Phe<br>280<br>ago                                   | ttc<br>Phe<br>aaa  | Lys<br>cag  | Ala  | Thr  | G1u<br>285<br>cag  | gtc<br>Val   | His   | Phe<br>tcc   | aag   | 290<br>acg   | atc<br>Ile   | 921<br>969                                  |
| 101<br>102<br>103<br>105<br>106  | tto<br>Phe<br>cgg  | Met  | Val  | Ala<br>999<br>Gly   | Phe<br>280<br>ago<br>Ser                            | ttc<br>Phe<br>aaa  | Lys<br>cag  | Ala  | Thr<br>ago<br>Ser  | Glu<br>285<br>cag<br>Gln   | gtc<br>Val   | His   | Phe<br>tcc   | aag<br>Lys  | Ser<br>290<br>acg  | atc<br>: Ile   |   |
| 101<br>102<br>103<br>105<br>106  | Phe<br>cgg<br>Arg  | Met<br>too<br>Ser  | Val  | Ala<br>999<br>Gly<br>295  | Phe<br>280<br>ago<br>Ser                            | Phe<br>aaa<br>Lys  | Lys<br>cag<br>Gln   | Ala<br>cgc<br>Arg  | Thr<br>ago<br>Ser<br>300   | Glu<br>285<br>cag  | gto<br>Val<br>aac<br>Asn   | His<br>cgc<br>Arg   | Phe<br>tcc<br>Ser  | aag<br>Lys  | Ser<br>290<br>acg<br>Thr   | atc<br>Tle<br>Ccc<br>Pro   | 969   |
| 101<br>102<br>103<br>105<br>106  | Phe<br>cgg<br>Arg  | Met<br>too<br>Ser  | Val  | Ala<br>999<br>Gly<br>295  | Phe<br>280<br>ago<br>Ser                            | Phe<br>aaa<br>Lys  | Lys<br>cag<br>Gln   | Ala<br>cgc<br>Arg  | Thr<br>ago<br>Ser<br>300   | Glu<br>285<br>cag  | gto<br>Val<br>aac<br>Asn   | His<br>cgc<br>Arg   | Phe<br>tcc<br>Ser  | aag<br>Lys  | Ser<br>290<br>acg<br>Thr   | atc<br>Ile   |   |
| 101<br>102<br>103<br>105<br>106<br>107   | tto<br>Phe<br>cgg<br>Arg   | tcc<br>Ser   | Val<br>acg<br>Thr  | Ala<br>999<br>Gly<br>295<br>gaa   | Phe<br>280<br>ago<br>Ser<br>gcc                     | Phe<br>aaa<br>Lys  | Lys<br>cag<br>Gln   | Ala<br>cgc<br>Arg  | ago<br>Ser<br>300  | Glu<br>285<br>cag<br>Gln   | gtc<br>Val<br>aac<br>Asn   | His<br>cgc<br>Arg   | Phe<br>tcc<br>Ser<br>gag   | aag<br>Lys<br>305   | Ser<br>290<br>acg<br>Thr   | atc<br>Tle<br>Ccc<br>Pro   | 969   |
| 101<br>102<br>103<br>105<br>106<br>107   | tto<br>Phe<br>cgg<br>Arg   | tcc<br>Ser   | Val<br>acg<br>Thr  | Ala<br>ggg<br>Gly<br>295<br>gaa<br>Glu  | Phe<br>280<br>ago<br>Ser<br>gcc                     | Phe<br>aaa<br>Lys  | Lys<br>cag<br>Gln   | Ala<br>cgc<br>Arg  | ago<br>Ser<br>300<br>gco<br>Ala  | Glu<br>285<br>cag<br>Gln   | gtc<br>Val<br>aac<br>Asn   | His<br>cgc<br>Arg   | Phe<br>tcc<br>Ser<br>gag   | aag<br>Lys<br>305<br>aac  | Ser<br>290<br>acg<br>Thr   | c atc<br>f lle<br>)<br>g ccc<br>f Pro  | 969   |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110   | ttc<br>Phe<br>cgg<br>Arg   | tec<br>Ser<br>aac  | Val<br>acg<br>Thr<br>cag<br>Gln<br>310   | Ala<br>ggg<br>Gly<br>295<br>gaa<br>Glu  | Phe<br>280<br>ago<br>Ser<br>gcc                     | Phe<br>aaa<br>Lys<br>ctg   | Lys<br>cag<br>Gln<br>cgg  | Ala<br>cgc<br>Arg<br>atg<br>Met<br>315   | ago<br>Ser<br>300<br>gco<br>Ala  | Glu<br>285<br>cag<br>Gln<br>aac  | gtc<br>Val<br>aac<br>Asn<br>gtg  | His<br>cgc<br>Arg<br>gca<br>Ala   | tcc<br>Ser<br>gag<br>Glu<br>320  | aag<br>Lys<br>305<br>aac  | Ser<br>290<br>acg<br>Thr<br>ago<br>Ser   | c atc<br>f lle<br>)<br>g ccc<br>f Pro  | 969   |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111  | ttc<br>Phe<br>cgg<br>Arg<br>aag<br>Lys   | Met<br>too<br>Ser<br>aac<br>Asr                                    | val<br>cacg<br>Thr<br>cag<br>Gln<br>310  | Ala<br>1 999<br>295<br>295<br>1 gaa<br>1 Glu  | Phe<br>280<br>agc<br>Ser<br>gcc<br>Ala              | tto<br>Phe<br>aaa<br>Lys<br>ctg<br>Leu   | cag<br>Gln<br>cgg<br>Arg  | Ala<br>cgc<br>Arg<br>atg<br>Met<br>315   | Thr agc Ser 300 gcc Ala  | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn   | gtc<br>Val<br>aac<br>Asn<br>gtg  | His<br>cgc<br>Arg<br>gca<br>Ala   | tcc<br>Ser<br>gag<br>Glu<br>320<br>tat   | aag<br>Lys<br>305<br>aac<br>Asn   | Ser<br>290<br>acc<br>Thr<br>ago<br>Ser<br>ser  | e atc<br>f lle<br>g ccc<br>f Pro<br>c age<br>s Ser   | 969   |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111  | ttc<br>Phe<br>cgg<br>Arg<br>aag<br>Lys   | Met<br>too<br>Ser<br>aac<br>Asr                                    | val<br>acg<br>Thr<br>cag<br>Gln<br>310<br>cag  | Ala<br>1 999<br>295<br>295<br>1 gaa<br>1 Glu  | Phe<br>280<br>agc<br>Ser<br>gcc<br>Ala              | tto<br>Phe<br>aaa<br>Lys<br>ctg<br>Leu   | cag<br>Gln<br>cgg<br>Arg  | Ala<br>cgc<br>Arg<br>atg<br>Met<br>315   | Thr agc Ser 300 gcc Ala  | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn   | gtc<br>Val<br>aac<br>Asn<br>gtg  | His<br>cgc<br>Arg<br>gca<br>Ala   | Phe<br>tcc<br>Ser<br>gag<br>Glu<br>320<br>tat                                      | aag<br>Lys<br>305<br>aac<br>Asn   | Ser<br>290<br>acc<br>Thr<br>ago<br>Ser<br>ser  | e atc<br>f lle<br>g ccc<br>pro<br>c agc  | 969   |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114  | tto<br>Phe<br>cgg<br>Arg<br>aag<br>Lys   | ted<br>Ser<br>aac<br>Asr<br>gac<br>Asp<br>325                      | val<br>acg<br>Thr<br>cag<br>Gln<br>310<br>cag  | Ala<br>1 999<br>295<br>295<br>1 gaa<br>1 Glu<br>1 agg   | Phe<br>280<br>agc<br>Ser<br>gcc<br>Ala<br>cag       | tto<br>Phe<br>aaa<br>Lys<br>ctg<br>Leu<br>gcc  | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys                                    | Alacgo Argatego Argat | Thr<br>ago<br>Ser<br>300<br>gcc<br>Ala<br>aag  | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn   | aac<br>Asn<br>yal<br>gtg<br>Val  | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335                                    | tcc<br>Ser<br>gag<br>Glu<br>320<br>tat   | aag<br>Lys<br>305<br>aac<br>Asn<br>gtc  | Ser<br>290<br>acg<br>Thr<br>ago<br>Ser<br>ser  | e atc<br>file<br>ficc<br>ficc<br>ficc<br>ficc<br>ficc<br>ficc<br>ficc<br>fic                 | 969<br>1017<br>1065                         |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115   | ttc<br>Phe<br>cgg<br>Arg<br>aag<br>Lys   | tec<br>Ser<br>aac<br>Asr<br>gac<br>Asp<br>325<br>gac               | val<br>cacg<br>Thr<br>cag<br>Gln<br>310<br>cag<br>Gln<br>ccag  | Ala<br>1 999<br>295<br>295<br>1 gaa<br>1 Glu<br>1 agg   | Phe 280 agc Ser Ala cag                             | tto<br>Phe<br>aaa<br>Lys<br>ctg<br>Leu<br>gcc<br>Ala   | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330                             | Alacgo<br>Arg<br>atg<br>Met<br>315<br>aag<br>Lys   | Thr<br>ago<br>Ser<br>300<br>gco<br>Ala<br>aag<br>Lys   | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn<br>cac<br>His   | gto<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu                                 | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335                                    | tcc<br>Ser<br>gag<br>Glu<br>320<br>tat<br>Tyr                                      | aag<br>Lys<br>305<br>aac<br>Asn<br>gtc<br>Val   | Ser 290 according ago. Ser ago. Ser cago. Ser  | atc Ile  | 969   |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117  | ttc<br>Phe<br>cgg<br>Arg<br>Lys<br>agc<br>Ser                                    | tec<br>Ser<br>aac<br>Asr<br>gac<br>Asp<br>325<br>gac<br>Asp        | val<br>cacg<br>Thr<br>cag<br>Gln<br>310<br>cag<br>Gln<br>ccag  | Ala<br>1 999<br>295<br>295<br>1 gaa<br>1 Glu<br>1 agg   | Phe 280 agc Ser Ala cag                             | tto<br>Phe<br>aaaa<br>Lys<br>ctg<br>Leu<br>gcc<br>Ala<br>cag<br>Gln                                    | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp               | Alacgo<br>Arg<br>atg<br>Met<br>315<br>aag<br>Lys   | Thr<br>ago<br>Ser<br>300<br>gco<br>Ala<br>aag<br>Lys   | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn<br>cac<br>His   | gtg<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Ala                   | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335                                    | tcc<br>Ser<br>gag<br>Glu<br>320<br>tat<br>Tyr                                      | aag<br>Lys<br>305<br>aac<br>Asn<br>gtc<br>Val   | Ser 290 according ago. Ser ago. Ser cago. Ser  | atc Ile of CCC Pro   | 969<br>1017<br>1065                         |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117  | ttc<br>Phe<br>cgg<br>Arg<br>Lys<br>agc<br>Ser<br>cga<br>Arg<br>340               | tec<br>Ser<br>aac<br>Asr<br>gac<br>Asp<br>325<br>gac               | val<br>acg<br>Thr<br>cag<br>Gln<br>310<br>cag<br>Gln<br>ctg  | Ala<br>999<br>61y<br>295<br>gaa<br>Glu<br>agg<br>Arg  | Phe 280 agc Ser Ala cag Gln tgg                     | tto<br>Phe<br>aaaa<br>Lys<br>ctg<br>Leu<br>gcc<br>Ala<br>cag<br>Gln<br>345                             | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp               | Alacgo<br>Arg<br>atg<br>Met<br>315<br>aag<br>Lys   | ago<br>Ser<br>300<br>gcc<br>Ala<br>aag<br>Lys  | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn<br>cac<br>His   | gtc<br>Val<br>aac<br>Asn<br>yal<br>gag<br>Glu<br>gcg<br>Ala<br>350                   | gca<br>Ala<br>ctg<br>Leu<br>335<br>cct  | gag<br>Glu<br>320<br>tat<br>Tyr  | aag<br>Lys<br>305<br>aac<br>Asn<br>gtc<br>Val   | Ser 290 according to the series ago Ser taccording the series ago Series S | e atc<br>file<br>g ccc<br>f Pro<br>c agc<br>s Ser<br>c ttc<br>f Phe<br>c gcc<br>f Ala<br>355 | 969<br>1017<br>1065<br>1113                 |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117<br>118   | ttc<br>Phe<br>cgg<br>Arg<br>Lys<br>agc<br>Ser<br>cga<br>Arg<br>340               | tec<br>Ser<br>aac<br>Asr<br>gac<br>Asp<br>325<br>gac<br>Asp        | acgo Thr<br>cago Gln<br>310<br>cago Gln<br>ctgo Leu  | Ala<br>gggg<br>Gly<br>gaa<br>Glu<br>agg<br>Arg<br>Gly   | Phe 280 agc Ser GC Ala cag Gln Trp gag              | tto<br>Phe<br>aaa<br>Lys<br>ctg<br>Leu<br>gcc<br>Ala<br>cag<br>Gln<br>345                              | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp               | Alacgo<br>Arg<br>atg<br>Met<br>315<br>aag<br>Lys<br>tgg  | Thrace ago Ser 300 gcc Ala aag Lys   | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn<br>cac<br>His   | gtc<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Ala<br>350            | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro                      | gag<br>Glu<br>320<br>tat<br>Tyr  | aag<br>Lys<br>305<br>aac<br>Asn<br>gtc<br>Val   | Ser 290 according according ago. Ser ago. Ser tao. Tyr   | atc Ile of ccc Pro cage Ser ttc Phe cage Ala 355 atg   | 969<br>1017<br>1065                         |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117<br>118<br>119<br>121<br>122                                    | ttc<br>Phe<br>cgg<br>Arg<br>Lys<br>agc<br>Ser<br>cga<br>Arg<br>340<br>gcc        | tec<br>Ser<br>aac<br>Asr<br>gac<br>Asp<br>325<br>gac<br>Asp        | acgo Thr<br>cago Gln<br>310<br>cago Gln<br>ctgo Leu  | Ala<br>gggg<br>Gly<br>gaa<br>Glu<br>agg<br>Arg<br>Gly   | Phe 280 agc Ser Gla Ala cag Gln Trp gag Glu         | tto<br>Phe<br>aaa<br>Lys<br>ctg<br>Leu<br>gcc<br>Ala<br>cag<br>Gln<br>345                              | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp               | Alacgo<br>Arg<br>atg<br>Met<br>315<br>aag<br>Lys<br>tgg  | Thrace ago Ser 300 gcc Ala aag Lys   | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn<br>cac<br>His<br>atc  | gtc<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Ala<br>350<br>cct     | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro                      | gag<br>Glu<br>320<br>tat<br>Tyr  | aag<br>Lys<br>305<br>aac<br>Asn<br>gtc<br>Val   | Ser 290 according according ago. Ser taccording taccording taccording taccording according to taccording according taccording according taccording taccording according taccording according to taccordinate accordinate acc | e atc<br>Ile<br>Ccc Pro<br>e agc<br>Ser<br>ttc<br>Phe<br>gcc<br>Ala<br>355<br>atg            | 969<br>1017<br>1065<br>1113                 |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117<br>118<br>119<br>121<br>122<br>123                             | ttc<br>Phe<br>cgg<br>Arg<br>Lys<br>agc<br>Ser<br>cga<br>Arg<br>340<br>gcc        | Met<br>tec<br>Ser<br>aac<br>Asr<br>gac<br>Asp<br>325<br>gac<br>Asp | c acg<br>Thr<br>c cag<br>Gln<br>310<br>c cag<br>Gln<br>c ctg<br>Leu  | Ala<br>gggg<br>Gly<br>295<br>gaa<br>Glu<br>agg<br>Arg<br>Gly<br>tgt                             | Phe 280 agc Ser Ala cag Gln Trp gag Glu 360         | tto<br>Phe<br>aaa<br>Lys<br>ctg<br>Leu<br>gcc<br>Ala<br>cag<br>Gln<br>345<br>ggg                       | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp               | Alacego<br>Arg<br>atg<br>Met<br>315<br>aag<br>Lys<br>tgg<br>Trp  | Thr agc Ser 300 gcc Ala aag Lys atc Ile  | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn<br>cac<br>His<br>atc  | gtc<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Ala<br>350<br>cct     | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro                      | gag<br>Glu<br>320<br>tat<br>Tyr<br>gaa<br>Glu<br>aac                               | aag<br>Lys<br>305<br>aac<br>Asn<br>gtc<br>Val<br>ggc<br>Gly<br>tcc<br>Ser                       | Ser 290 according to the ser ser ser ser ser ser ser ser ser se  | c atc Ile CCC Pro c agc Ser c ttc Phe c gcc Ala 355 c Met                                    | 969<br>1017<br>1065<br>1113<br>1161         |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117<br>118<br>119<br>121<br>122<br>123<br>125                      | tto<br>Phe<br>cgg<br>Arg<br>Lys<br>agc<br>Ser<br>cga<br>Arg<br>340<br>gcc<br>Ala | Met too Ser aac Asr 325 gac Asr Tyr gcc                            | acgo Thrace cago Cago Cago Cago Cago Cago Cago Cago C  | Ala<br>ggg<br>Gly<br>295<br>gaa<br>Glu<br>agg<br>Arg<br>Gly<br>tgt<br>Cys                       | Phe 280 agc Ser Ser Ala cag Gln tgg Glu 360 cac     | Phe aaaa Lys ctg Leu gcc Ala cag Glm 345 ggg Gly gcc   | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>330<br>Asp<br>gag<br>Glu | Ala<br>cgc<br>Arg<br>atg<br>Met<br>315<br>aag<br>Lys<br>tgg<br>Trp<br>tgt  | Thr agc Ser 300 gcc Ala aag Lys atc Ile gcc Ala cag  | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn<br>cac<br>His<br>atc<br>11e<br>ttc<br>Phe<br>365<br>acg           | gtg<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Ala<br>350<br>cct     | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro<br>ctg<br>Leu        | gag<br>Glu<br>320<br>tat<br>Tyr<br>gaa<br>Glu<br>aac<br>Asn                        | aag<br>Lys<br>305<br>aac<br>Asn<br>yal<br>ggc<br>Gly<br>tcc<br>Ser                              | Ser 290 according to the ser ser ser ser ser ser ser ser ser se  | c atc Ile ccc Pro cagc Ser ttc Phe cagc Ala 355 atg atg aac                                  | 969<br>1017<br>1065<br>1113                 |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>1113<br>114<br>115<br>117<br>118<br>119<br>121<br>122<br>123<br>125                            | tto<br>Phe<br>cgg<br>Arg<br>Lys<br>agc<br>Ser<br>cga<br>Arg<br>340<br>gcc<br>Ala | Met too Ser aac Asr 325 gac Asr Tyr gcc                            | acgo Thrace cago Cago Cago Cago Cago Cago Cago Cago C  | Ala<br>1 999<br>295<br>1 gaa<br>1 Glu<br>1 agg<br>2 Gly<br>2 Cys<br>2 aac<br>Asn                | Phe 280 agc Ser Ser Ala cag Gln tgg Glu 360 cac His | Phe aaaa Lys ctg Leu gcc Ala cag Glm 345 ggg Gly gcc   | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>330<br>Asp<br>gag<br>Glu | Ala<br>cgc<br>Arg<br>atg<br>Met<br>315<br>aag<br>Lys<br>tgg<br>Trp<br>tgt  | Thr agc Ser 300 gcc Ala aag Lys atc Ile gcc Ala cag Gln  | Glu<br>285<br>cag<br>Gln<br>aac<br>Asn<br>cac<br>His<br>atc<br>Ile<br>ttc<br>Phe<br>365<br>acg           | gtg<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Ala<br>350<br>cct     | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro<br>ctg<br>Leu        | gag<br>Glu<br>320<br>tat<br>Tyr<br>gaa<br>Glu<br>aac<br>Asn                        | aagg<br>Lyss<br>305<br>aacc<br>Asn<br>gtc<br>Val<br>ggc<br>Gly<br>tcc<br>Ser<br>ttc<br>Phe      | Ser 290 according to the ser ago. Ser Tyr tao. Tyr 370 according to the ser ago.   | c atc Ile CCC Pro c agc Ser c ttc Phe c gcc Ala 355 c Met                                    | 969<br>1017<br>1065<br>1113<br>1161         |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117<br>118<br>121<br>122<br>123<br>125<br>126<br>127               | ttc. Phe cgg Arg aag Lys ser cga Arg 340 gcc Ala aac                             | Met too Ser aac Asr gac Asr gac Asr gac Asr gac Asp ac Asp tac Tyr | caggarante  | Ala  ggg Gly 295 Gly agg Gly Arg  tgt Cys  aac Asn 375  | Phe 280 agc Ser Gln tgg Gln gag Gln 360 cac His     | ttc<br>Phe<br>aaaa<br>Lys<br>ctg<br>Leu<br>gcc<br>Ala<br>cag<br>Gln<br>345<br>ggg<br>Gly<br>gcc<br>Ala | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp<br>gag<br>Glu | Alacego Argates Argate | Thr<br>agc<br>Ser<br>300<br>gcc<br>Ala<br>aag<br>Lys<br>atc<br>Ile<br>gcc<br>Ala<br>cag<br>Gln<br>380  | Glu 285 cag Gln aacc Asn cacc His atc Ile ttc Phe 365 acg Thr  | gtc<br>Val<br>aac<br>Asn<br>gtg<br>Glu<br>gcg<br>Ala<br>350<br>cct<br>Pro            | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro<br>ctg<br>Leu<br>gtc | e tcc<br>Ser<br>gag<br>Glu<br>320<br>tat<br>Tyr<br>gaa<br>Glu<br>aac<br>Asn        | aag<br>Lyss<br>305<br>aac<br>Asn<br>gtc<br>Val<br>ggc<br>Gly<br>tcc<br>Ser<br>ttc<br>Phe<br>385 | Serior 2900 accept the control of th | atc atc Ile of Coc Pro agc Ser ttc Phe agc at a 355 atg Met                                  | 969<br>1017<br>1065<br>1113<br>1161<br>1209 |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117<br>118<br>119<br>121<br>122<br>123<br>125<br>126<br>127<br>129 | ttc: Phe cgg aag Lys agc Ser cga Arg 340 gcc Ala aac ccg                         | Met tecc Ser aaac Asr gac Asr 325 gac Asp tac Tyr gca Ala gaa      | cagging caggin cagging cagging cagging cagging cagging cagging cagging cagging | Ala  ggg Gly 295 gaa Glu agg Arg Cys asac sqt gtg   | Phe 280 agc Ser Ala cag Gln tgg Glu 360 cac His     | ttcc Phe aaaa Lys ctg Leu gcc Ala cag Gln 345 ggg Gly gcc Ala aag                                      | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp<br>Glu<br>atc | Alacego Arganta Argant | Thriange age of the state of th | Glu<br>2855<br>cag<br>Gln<br>aacc<br>Asn<br>cacc<br>His<br>atc<br>Ile<br>ttc<br>Phe<br>365<br>acg<br>Thr | gtc<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Alaa350<br>cct<br>Pro | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro<br>ctg<br>Leu<br>gtc | e Phe<br>tcc<br>Ser<br>gag<br>Glu<br>320<br>tat<br>Tyr<br>gaa<br>Glu<br>acc<br>Asn | aagga Lyssaac Asn gtc Val ggc Gly tcc Ser ttc Phe 385 ctc                                       | Serion Se | atc Ile of Coc Pro cago From the Ser tto Phe cago From Met Canada Asn                        | 969<br>1017<br>1065<br>1113<br>1161         |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117<br>118<br>119<br>121<br>122<br>123<br>125<br>126<br>127<br>129 | ttc: Phe cgg aag Lys agc Ser cga Arg 340 gcc Ala aac ccg                         | Met tecc Ser aaac Asr gac Asr 325 gac Asp tac Tyr gca Ala gaa      | cagging caggin cagging cagging cagging cagging cagging cagging cagging cagging | Ala  ggg Gly 295 gaa Glu agg Arg Cys asac sqt gtg   | Phe 280 agc Ser Ala cag Gln tgg Glu 360 cac His     | ttcc Phe aaaa Lys ctg Leu gcc Ala cag Gln 345 ggg Gly gcc Ala aag                                      | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp<br>Glu<br>atc | Alacego Arganta Argant | Thriange age of the state of th | Glu<br>2855<br>cag<br>Gln<br>aacc<br>Asn<br>cacc<br>His<br>atc<br>Ile<br>ttc<br>Phe<br>365<br>acg<br>Thr | gtc<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Alaa350<br>cct<br>Pro | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro<br>ctg<br>Leu<br>gtc | e Phe<br>tcc<br>Ser<br>gag<br>Glu<br>320<br>tat<br>Tyr<br>gaa<br>Glu<br>acc<br>Asn | aagga Lyssaac Asn gtc Val ggc Gly tcc Ser ttc Phe 385 ctc                                       | Serion Se | atc atc Ile of Coc Pro agc Ser ttc Phe agc at a 355 atg Met                                  | 969<br>1017<br>1065<br>1113<br>1161<br>1209 |
| 101<br>102<br>103<br>105<br>106<br>107<br>109<br>110<br>111<br>113<br>114<br>115<br>117<br>118<br>119<br>121<br>122<br>123<br>125<br>126<br>127<br>129 | ttc: Phe cgg aagg Lys agc Ser cga Arg 340 gcc Ala aac Pro                        | Met tecc Ser aaac Asr gac Asr 325 gac Asp tac Tyr gca Ala gaa      | cagging caggin cagging cagging cagging cagging cagging cagging cagging cagging | Ala<br>gggg<br>Gly<br>295<br>Glu<br>agg<br>Arg<br>Gly<br>tgt<br>Cys<br>aac<br>Asn<br>gtg<br>Val | Phe 280 agc Ser Ala cag Gln tgg Glu 360 cac His     | ttcc Phe aaaa Lys ctg Leu gcc Ala cag Gln 345 ggg Gly gcc Ala aag                                      | cag<br>Gln<br>cgg<br>Arg<br>tgt<br>Cys<br>330<br>gac<br>Asp<br>Glu<br>atc | Alacego Arganta Argant | Thriangle age of the second ag | Glu<br>2855<br>cag<br>Gln<br>aacc<br>Asn<br>cacc<br>His<br>atc<br>Ile<br>ttc<br>Phe<br>365<br>acg<br>Thr | gtc<br>Val<br>aac<br>Asn<br>gtg<br>Val<br>gag<br>Glu<br>gcg<br>Alaa350<br>cct<br>Pro | His<br>cgc<br>Arg<br>gca<br>Ala<br>ctg<br>Leu<br>335<br>cct<br>Pro<br>ctg<br>Leu<br>gtc | e Phe<br>tcc<br>Ser<br>gag<br>Glu<br>320<br>tat<br>Tyr<br>gaa<br>Glu<br>acc<br>Asn | aagga Lyssaac Asn gtc Val ggc Gly tcc Ser ttc Phe 385 ctc                                       | Serion Se | atc Ile of Coc Pro cago From the Ser tto Phe cago From Met Canada Asn                        | 969<br>1017<br>1065<br>1113<br>1161<br>1209 |

RAW SEQUENCE LISTING DATE: 09/26/2000 PATENT APPLICATION: US/09/423,943 TIME: 16:40:05

Input Set : A:\Cbm-70wo.app
Output Set: N:\CRF3\09262000\I423943.raw

133 atc tcc gtc ctc tac ttc gat gac agc tcc aac gtc atc ctg aag aaa 134 Ile Ser Val Leu Tyr Phe Asp Asp Ser Ser Asn Val Ile Leu Lys Lys 410 415 405 135 1351 137 tac aga aac atg gtg gtc cgg gcc tgt ggc tgc cac tageteetee 138 Tyr Arg Asn Met Val Val Arg Ala Cys Gly Cys His 139 420 425 430 425 139 420 141 gagaattcag accetttggg gccaagtttt tetggateet ceattgeteg cettggecag 1411 143 gaaccageag accaactgee ttttgtgaga cetteecete cetateecea aetttaaagg 1471 145 tgtgagagta ttaggaaaca tgagcagcat atggcttttg atcagttttt cagtggcagc 1531 147 atccaatgaa caagatccta caagctgtgc aggcaaaacc tagcaggaaa aaaaaacaac 1591 149 gcataaagaa aaatggccgg gccaggtcat tggctgggaa gtctcagcca tgcacggact 1651 151 cgtttccaga ggtaattatg agcgcctacc agccaggcca cccagccgtg ggaggaaggg 1711 153 ggcgtggcaa ggggtgggca cattggtgtc tgtgcgaaag gaaaattgac ccggaagttc 1771 158 <210> SEQ ID NO: 2 159 <211> LENGTH: 431 160 <212> TYPE: PRT 161 <213> ORGANISM: Homo sapiens 163 <400> SEQUENCE: 2 164 Met His Val Arg Ser Leu Arg Ala Ala Pro His Ser Phe Val Ala 165 167 Leu Trp Ala Pro Leu Phe Leu Leu Arg Ser Ala Leu Ala Asp Phe Ser 168 20 25 30 168 170 Leu Asp Asn Glu Val His Ser Ser Phe Ile His Arg Arg Leu Arg Ser 171 35 40 45 173 Gln Glu Arg Arg Glu Met Gln Arg Glu Ile Leu Ser Ile Leu Gly Leu 174 50 55 60 176 Pro His Arg Pro Arg Pro His Leu Gln Gly Lys His Asn Ser Ala Pro 177 65 70 75 80 182 Gly Pro Gly Gly Gln Gly Phe Ser Tyr Pro Tyr Lys Ala Val Phe Ser 183 100 105 110 185 Thr Gln Gly Pro Pro Leu Ala Ser Leu Gln Asp Ser His Phe Leu Thr 186 115 120 125 188 Asp Ala Asp Met Val Met Ser Phe Val Asn Leu Val Glu His Asp Lys 189 130 135 140 191 Glu Phe Phe His Pro Arg Tyr His His Arg Glu Phe Arg Phe Asp Leu 150 155 192 145 194 Ser Lys Ile Pro Glu Gly Glu Ala Val Thr Ala Ala Glu Phe Arg Ile
195 165 197 Tyr Lys Asp Tyr Ile Arg Glu Arg Phe Asp Asn Glu Thr Phe Arg Ile 198 180 185 190 198 200 Ser Val Tyr Gln Val Leu Gln Glu His Leu Gly Arg Glu Ser Asp Leu 201 200 205 203 Phe Leu Leu Asp Ser Arg Thr Leu Trp Ala Ser Glu Glu Gly Trp Leu 204 210 215 220 206 Val Phe Asp Ile Thr Ala Thr Ser Asn His Trp Val Val Asn Pro Arg 235 230

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/423,943

DATE: 09/26/2000
TIME: 16:40:05

Input Set : A:\Cbm-70wo.app

Output Set: N:\CRF3\09262000\I423943.raw

```
209 His Asn Leu Gly Leu Gln Leu Ser Val Glu Thr Leu Asp Gly Gln Ser
     210
                         245
                                             250
     212 Ile Asn Pro Lys Leu Ala Gly Leu Ile Gly Arg His Gly Pro Gln Asn
     213
                    260
                                         265
                                                              270
     215 Lys Gln Pro Phe Met Val Ala Phe Phe Lys Ala Thr Glu Val His Phe
     216
                 275
                                     280
     218 Arg Ser Ile Arg Ser Thr Gly Ser Lys Gln Arg Ser Gln Asn Arg Ser
     219
             290
                                 295
     221 Lys Thr Pro Lys Asn Gln Glu Ala Leu Arg Met Ala Asn Val Ala Glu
     222 305
                             310
                                                 315
     224 Asn Ser Ser Ser Asp Gln Arg Gln Ala Cys Lys Lys His Glu Leu Tyr
                        325
                                             330
     227 Val Ser Phe Arg Asp Leu Gly Trp Gln Asp Trp Ile Ile Ala Pro Glu
                     340
                                         345
                                                              350
     230 Gly Tyr Ala Ala Tyr Tyr Cys Glu Gly Glu Cys Ala Phe Pro Leu Asn
                 355
     231
                                     360
                                                          365
     233 Ser Tyr Met Asn Ala Thr Asn His Ala Ile Val Gln Thr Leu Val His
     234
             370
                                 375
                                                     380
     236 Phe Ile Asn Pro Glu Thr Val Pro Lys Pro Cys Cys Ala Pro Thr Gln
     237 385
                             390
                                                 395
     239 Leu Asn Ala Ile Ser Val Leu Tyr Phe Asp Asp Ser Ser Asn Val Ile
                        405
                                             410
     240
                                                                 415
     242 Leu Lys Lys Tyr Arg Asn Met Val Val Arg Ala Cys Gly Cys His
243 420 425 430
     246 <210> SEQ ID NO: 3
     247 <211> LENGTH: 102
     248 <212> TYPE: PRT
     249 <213> ORGANISM: Artificial Sequence
     251 <220> FEATURE:
     252 <223> OTHER INFORMATION: Description of Artificial Sequence: OPX
     254 <220> FEATURE:
     255 <221> NAME/KEY: VARIANT
     256 <222> LOCATION: (1)..(102)
     257 <223> OTHER INFORMATION: wherein each Xaa is independently selected from a
     258
               group of one or more specified amino acids as
     259
               defined in the specification
     261 <400> SEQUENCE: 3
W--> 262 Cys Xaa Xaa His Glu Leu Tyr Val Ser Phe Xaa Asp Leu Gly Trp Xaa
                                              10
  -> 265 Asp Trp Xaa Ile Ala Pro Xaa Gly Tyr Xaa Ala Tyr Tyr Cys Glu Gly
    266
                     20
                                          25
  -> 268 Glu Cys Xaa Phe Pro Leu Xaa Ser Xaa Met Asn Ala Thr Asn His Ala
    269
                 35
                                      40
W--> 271 Ile Xaa Gln Xaa Leu Val His Xaa Xaa Xaa Pro Xaa Xaa Val Pro Lys
    272
            50
                                 55
    274 Xaa Cys Cys Ala Pro Thr Xaa Leu Xaa Ala Xaa Ser Val Leu Tyr Xaa
    275 65
                             70
                                                 75
W--> 277 Asp Xaa Ser Xaa Asn Val Ile Leu Xaa Lys Xaa Arg Asn Met Val Val
                         85
```

```
PATENT APPLICATION: US/09/423,943
                                                         TIME: 16:40:05
                   Input Set : A:\Cbm-70wo.app
                   Output Set: N:\CRF3\09262000\I423943.raw
W--> 280 Xaa Ala Cys Gly Cys His
    281
                   100
    284 <210> SEQ ID NO: 4
    285 <211> LENGTH: 97
    286 <212> TYPE: PRT
    287 <213> ORGANISM: Artificial Sequence
    289 <220> FEATURE:
    290 <223> OTHER INFORMATION: Description of Artificial Sequence: Generic
    291
              Sequence 7
    293 <220> FEATURE:
    294 <221> NAME/KEY: VARIANT
    295 <222> LOCATION: (1)..(97)
    296 <223> OTHER INFORMATION: wherein each Xaa is independently selected from a
              group of one or more specified amino acids defined
    298
              in the specification
    300 <400> SEQUENCE: 4
W--> 301 Leu Xaa Xaa Xaa Phe Xaa Xaa Xaa Gly Trp Xaa Xaa Trp Xaa Xaa Xaa
    302 1
                                           10
W--> 304 Pro Xaa Xaa Xaa Xaa Ala Xaa Tyr Cys Xaa Gly Xaa Cys Xaa Yaa Pro 305 20 25 30
W--> 307 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asn His Ala Xaa Xaa Xaa Xaa
                35
311
         50
                               55
                                                  60
W--> 313 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa
                           70
                                              75
    314 65
W--> 316 Val Xaa Leu Xaa Xaa Xaa Xaa Met Xaa Val Xaa Xaa Cys Xaa Cys
    317
                                           90
W--> 319 Xaa
    323 <210> SEQ ID NO: 5
    324 <211> LENGTH: 102
    325 <212> TYPE: PRT
    326 <213> ORGANISM: Artificial Sequence
    328 <220> FEATURE:
    329 <223> OTHER INFORMATION: Description of Artificial Sequence: Generic
    330
             Sequence 8
    332 <220> FEATURE:
    333 <221> NAME/KEY: VARIANT
    334 <222> LOCATION: ()..)
    335 <223> OTHER INFORMATION: wherein each Xaa is independently selected from a
    336
             group of one or more specified amino acids defined
    337
              in the specification
    339 <400> SEQUENCE: 5
W--> 340 Cys Kaa Xaa Xaa Leu Xaa Xaa Phe Xaa Xaa Gly Trp Xaa
    341 1 5
                                          10
W--> 343 Xaa Xaa Xaa Xaa Xaa Pro Xaa Xaa Xaa Ala Xaa Tyr Cys Xaa Gly
        20
                                      2.5
                                                          30
    344
W--> 346 Xaa Cys Xaa Xaa Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asn His Ala
                35
                                   40
```

DATE: 09/26/2000

RAW SEQUENCE LISTING

## Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

DATE: 09/26/2000 TIME: 16:40:06

PATENT APPLICATION: US/09/423,943

Input Set : A:\Cbm-70wo.app
Output Set: N:\CRF3\09262000\I423943.raw

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:262 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:265 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:268 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:271 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:274 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:277 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:280 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 L:304 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 (46) "n" or "Xaa" used, for SEQ ID#:4 L:307 M:341 W: L:310 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 L:313 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 "n" or "Xaa" used, for SEQ ID#:4
"n" or "Xaa" used, for SEQ ID#:4
"n" or "Xaa" used, for SEQ ID#:4 L:316 M:341 W: (46) L:319 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 L:340 M:341 W: (46) L:343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 L:346 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 "n" or "Xaa" used, for SEQ ID#:5
"n" or "Xaa" used, for SEQ ID#:5 L:349 M:341 W: (46) L:352 M:341 W: (46) L:355 M:341 W: (46)"n" or "Xaa" used, for SEQ ID#:5 L:358 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 L:379 M:341 W: (46) L:382 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 "n" or "Xaa" used, for SEQ ID#:6 L:385 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 L:388 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 L:391 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 L:394 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 L:397 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 L:418 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 L:421 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 L:424 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 L:427 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 L:430 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 L:433 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 L:436 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 L:456 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 L:477 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9